



SPECIFICATION SHEET NO.	S0425 – RL32K76800S302	
ORIGINAL MFG/PART NO.	TGS Crystals/COK3231AGI01 TLF-32K768	
NEXTGEN PART CODE	RL32K76800S302	Indicate This Code For RFQ /Order
DATE	Apr. 25, 2025	
REVISION	A2	Updated With Most Recent Data
DESCRIPTION AND MAIN PARAMETRICS	KHz SMD Crystal Oscillator, 3225 Type, 4 Pads, RL series, Case Dimension L3.2*W2.5*H1.0mm 32.768KHz, Supply Voltage 3.3V, Tolerance $\pm 25\text{ppm}$ @ $25^{\circ}\text{C} \pm 3^{\circ}\text{C}$ Symmetry 45/55; Output Waveform HCMOS, Output Load 15pF Tri-State (Output Enable) Via Pin 1 Operating Temp. Range $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$ Package in Tape/Reel, 3000pcs/Reel REACH/RoHS/RoHS III Compliant	
CUSTOMER		
CUSTOMER PART NUMBER		
CROSS REF. PART NUMBER		
MEMO		

VENDOR APPROVE
Issued/Checked/Approved   
Effective Date: Apr. 25, 2025

CUSTOMER APPROVE
Date:

MAIN FEATURE

- SMD Package, Seam Sealed, 3225 Type, 4 Pads
- Case Dimension L3.2*W2.5*H1.0mm
- Low Noise And Low Current
- Industry Standard
- Reflow Profile Condition 260 °C Max.
- Tristate Function – Enable/Disable or Tri-State (Output Enable) Via Pin 1
- Cross More Competitor's Part
- REACH/RoHS/RoHS III Compliant



Image shown is a representation only. Exact specifications should be obtained from the product dimension.



APPLICATION

- PDA, PND, DSC, Smart phone, WiLAN, Bluetooth and more
- Communication Electronics

ELECTRICAL CHARACTERISTICS

- See Page 6 ~ Page 7 For Different Part Code.
- All Products Parameters are Subject To NextGen Components' Final Confirmation.

HOW TO ORDER

- Please Follow Up Part Code Guide And Indicate NextGen Part Code RL32K76800S302 For RFQ and Order.

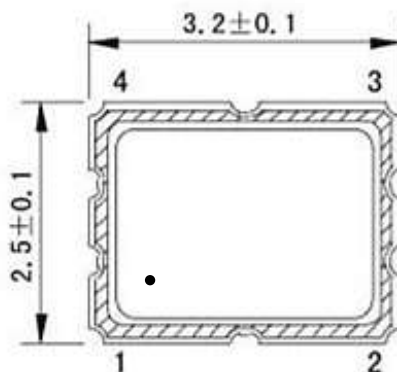
PART CODE GUIDE

RFQ
[Request For Quotation](#)

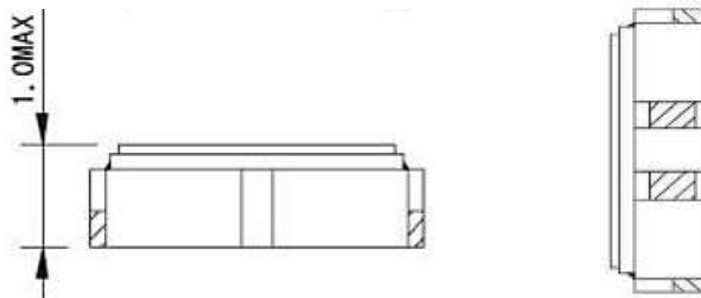
CODE	NAME	KEY SPECIFICATION OPTION
RL	Series Code	KHz SMD Crystal Oscillator 3225 Type, 4Pads Case Dimension L3.2*W2.5*H1.0mm
32K768	Frequency Range Code	32K768: 32.768KHz or Specify Frequency Range
00S	Internal Control Code	Letter A~Z, a~z or Digits (0~9)
302	Parameters Code	Special Parameters Code Letter A~Z, a~z or Digits (1-9)
XX	Special/Custom Parameters Code	Blank: N/A XX: Letter A~Z, a~z or Digits (0~9) for Special/Custom Parameters

DIMENSION - Unit: mm, Case Dimension L3.2*W2.5*H1.0mm

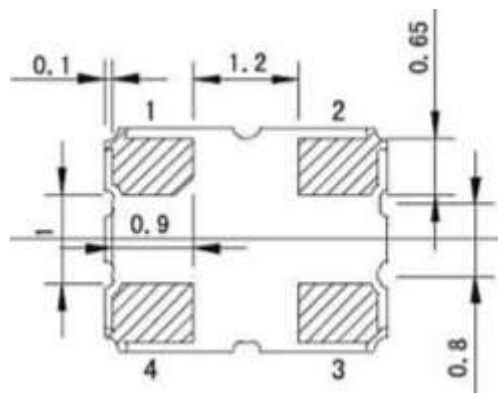
Top View



Side View



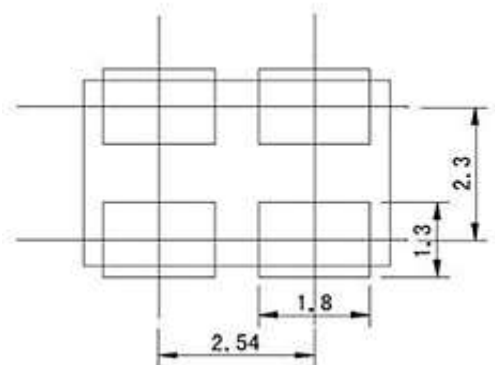
Bottom View



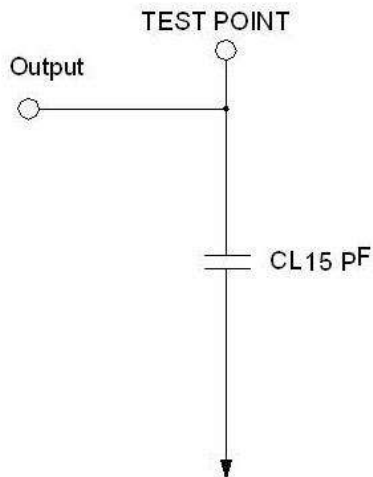
Pin Function

- # 1 Tristate Enable Via #1
- #2 Ground
- #3 Output
- #4 VDD

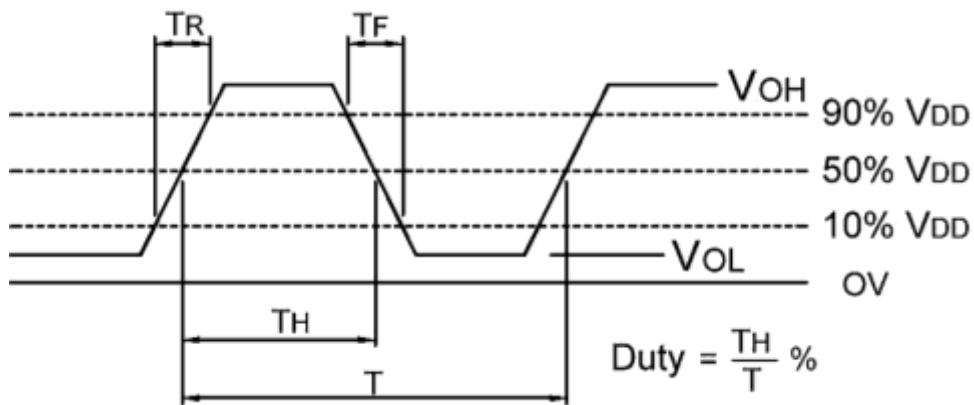
SUGGESTED LAYOUT– Unit: mm, For Reference



CIRCUIT PRINCIPLE – For Reference



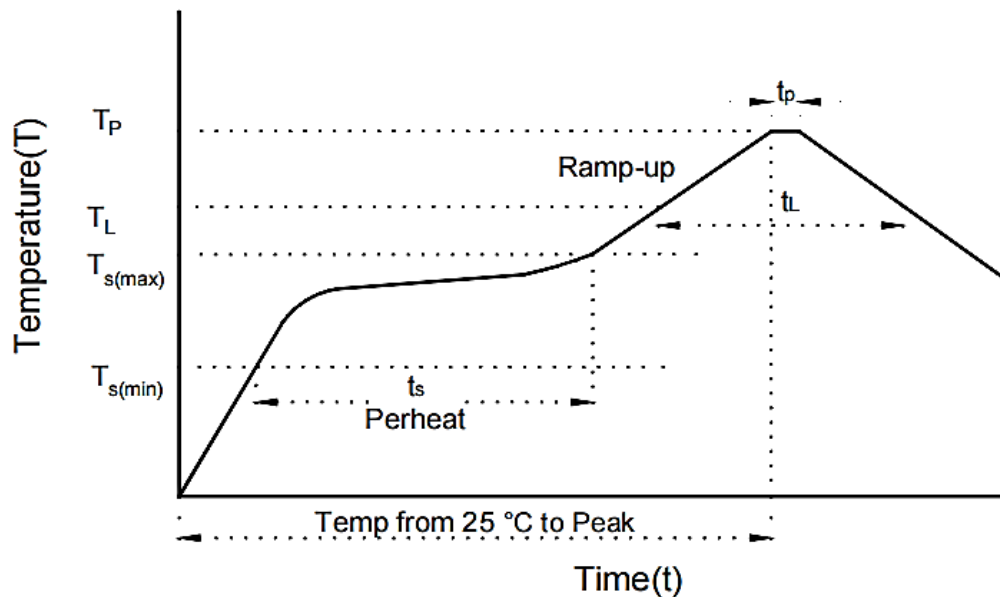
OUTPUT WAVEFORM - HCMOS LOAD



GENERAL SPECIFICATION

PARAMETER		SYMBOL	VALUE			UNIT	CONDITION
			MIN.	TYPE	MAX.		
Frequency Range		F0	-	32.768	-	MHz	Please specify
Frequency Tolerance		$\Delta F/F0$	± 20	-	± 50	ppm	at 25°C $\pm 3^\circ\text{C}$
Tristate Function		INH N	Disable or Tri-State (Output Enable) Via Pin 1				Please specify
Operating Temp. Range		TOPR	-40	-	+85	°C	
Storage Temp. Range		TSTG	-55	-	+125	°C	
Power Supply	Voltage	VDD	1.62		5	V	Please specify
	Current	IDD	-	-	10	mA	@ Max. Supply Voltage
Output Level		VOH	90% Vdd	-	-	V	Output High(Logic "1")
		VOL	-	-	10% Vdd	V	Output Low(Logic "0")
		Load	15, 30, 50			pF	Please specify
Output Waveform			HCMOS				Please specify
Duty Cycle		Duty	45	-	55	%	
Phase Jitter		rms	-	-	1	ps	
Start-up Time		Tosc	-	-	5	mSec.	
Rise/ Fall time		Tr/Tf	-	-	5	nSec.	
Aging		FA	-3	-	+3	ppm	Frequency drift in 1st year

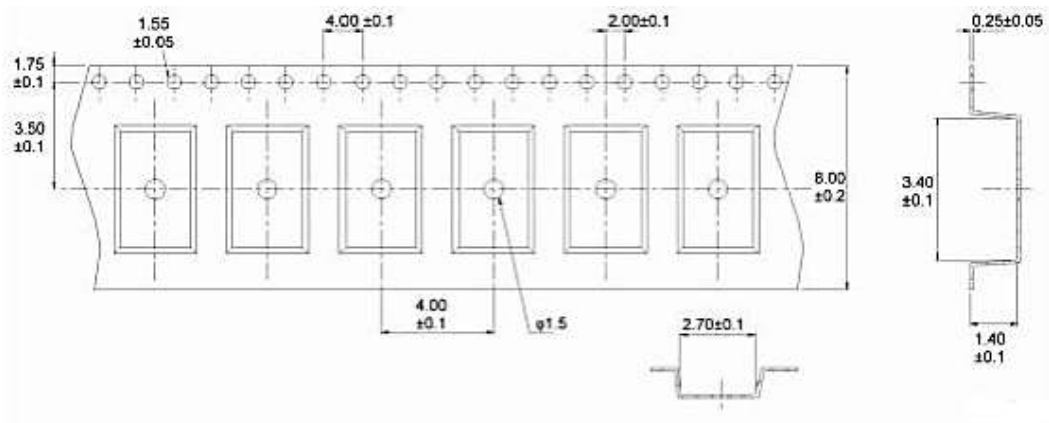
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SUGGESTED REFLOW PROFILE - For Reference Only


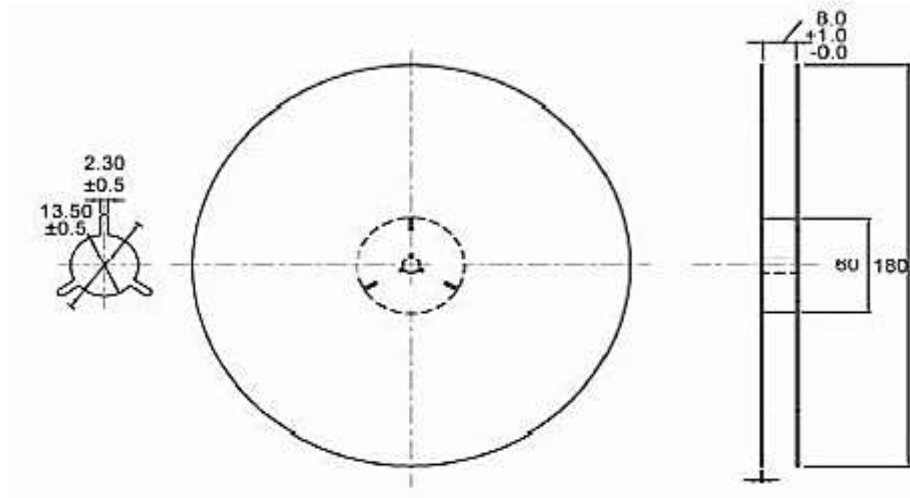
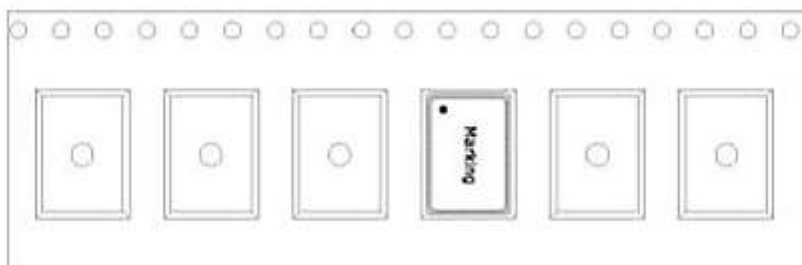
PROFILE FEATURE		PB-FREE ASSEMBLY
Average Ramp-up Rate (TL Max to Tp)		3°C/second Max
Preheat	Temperature Min (Ts Min.)	150°C
	Temperature Max (Ts Max.)	200°C
	Time (ts Min. to ts Max.)	60 ~ 120 seconds
Time maintained above	Temperature (TL)	217°C
	Time (tL)	45 ~ 90 seconds
Peak/Classification Temperature (Tp)		260 °C
Time within 5°C of actual Peak Temperature (tp)		10 seconds Max.
Ramp-down Rate		6 °C /Second Max.
Time 25 °C to Peak Temperature		8 Minutes Max.
Suggest reflow times		3 Times Max.

TAPE/REEL -Unit: mm

All Devices are packed in accordance with EIA standard RS-481-2 and specifications, 3000pcs/Reel



The Direction Of Packing



IMPORTANT NOTES AND DISCLAIMER

1. **ROHS COMPLIANCE:** The levels of RoHS restricted materials in this product are below the maximum concentration values (also referred to as the threshold limits) permitted for such substances, or are used in an exempted application, in accordance with EU RoHS Directive (EU) 2015/863 EC (RoHS3). RoHS Test Report for this product can be obtained at Download Center.
2. **REACH COMPLIANCE:** REACH substances of high concern (SVHCs) information is available for this product. Since the European Chemical Agency (ECHA) has published notice of their intent to frequently revise the SVHC listing for the foreseeable future, REACH Test Report for this product can be obtained at Download Center.
3. All Product parametric performance is indicated in the Electrical Characteristics for the listed herein test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.
4. NextGen Component, Inc (*NextGen*) reserves the right to make changes to this document and its products and specifications at any time without notice. Customers should obtain and confirm the latest product information and specifications before final design, purchase or use.
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7. *NextGen* products are not authorized for use as critical components in life support devices or systems without express written approval by *NextGen*.
8. *NextGen* requires that customers first obtain an RMA (Returned Merchandise Authorization) number prior to returning any products. Returns must be made within 30 days of the date of invoice, be in the original packaging, unused and like-new condition. At the time of quoting or purchasing, a product may say that it is Non-Cancelable/ Non-Returnable (NCNR). These products are not returnable and not refundable.